Release notes for ENDF/B Development n-058_Ce_144 evaluation



April 26, 2017

- checkr Warnings:
 - 1. A previous error halted parsing of the current section $MAT=5849,\ MF=1,\ MT=451\ (1)$: Parsing stopped

ERROR(S) FOUND IN MAT=5849, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER 215 TO 251

- checkr Errors:
 - 1. A variable is outside the allowed ENDF range MAT=5849, MF=1, MT=451 (0): Variable range

ERROR(S) FOUND IN MAT=5849, MF= 1, MT=451
MOD = 1 OUT OF RANGE 0 - 0 RECORD NUMBER 215

2. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=2, MT=151 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY RECORD NUMBER 253

3. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=3, MT=1 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY RECORD NUMBER 407

4. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=3, MT=2 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY RECORD NUMBER 444

5. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=3, MT=4 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY RECORD NUMBER 473

6. Missing a section in directory so your directory is messed up. This error will break everything else $MAT=5849,\ MF=\ 3,\ MT=\ 16\ (0)$: Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY RECORD NUMBER 486

7. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=3, MT=17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 17 SECTION 3/ 17 NOT IN DIRECTORY

RECORD NUMBER

8. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 22 SECTION 3/ 22 NOT IN DIRECTORY

RECORD NUMBER 507

9. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 28 SECTION 3/ 28 NOT IN DIRECTORY

RECORD NUMBER 523

10. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 32 SECTION 3/ 32 NOT IN DIRECTORY

RECORD NUMBER 533

11. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 33 SECTION 3/ 33 NOT IN DIRECTORY

RECORD NUMBER 540

12. Missing a section in directory so your directory is messed up. This error will break everything else MAT = 5849, MF = 3, MT = 51 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 51 SECTION 3/51 NOT IN DIRECTORY

RECORD NUMBER 548

13. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 52 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 52 SECTION 3/52 NOT IN DIRECTORY

RECORD NUMBER 561

14. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT= 91 SECTION 3/91 NOT IN DIRECTORY

RECORD NUMBER 572

15. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 102 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT=102 SECTION 3/102 NOT IN DIRECTORY

RECORD NUMBER 582

16. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 103 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT=103 SECTION 3/103 NOT IN DIRECTORY

RECORD NUMBER 602

17. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 104 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT=104 SECTION 3/104 NOT IN DIRECTORY

RECORD NUMBER 615

18. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 105 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT=105 SECTION 3/105 NOT IN DIRECTORY

RECORD NUMBER 627

19. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 3, MT = 107 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 3, MT=107 SECTION 3/107 NOT IN DIRECTORY

RECORD NUMBER 638

20. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=4, MT=2 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= $^{\circ}$ 2

SECTION 4/ 2 NOT IN DIRECTORY

RECORD NUMBER 655

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21. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=4, MT=16 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 16 SECTION 4/ 16 NOT IN DIRECTORY

RECORD NUMBER 808

22. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=4, MT=17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 17 SECTION 4/ 17 NOT IN DIRECTORY

RECORD NUMBER 819

23. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=4, MT=22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 22 SECTION 4/ 22 NOT IN DIRECTORY

RECORD NUMBER

24. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 28 SECTION 4/ 28 NOT IN DIRECTORY

RECORD NUMBER 841

25. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 32 SECTION 4/ 32 NOT IN DIRECTORY

RECORD NUMBER 852

26. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 33 SECTION 4/ 33 NOT IN DIRECTORY

RECORD NUMBER 863

27. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 51 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 51 SECTION 4/51 NOT IN DIRECTORY

RECORD NUMBER

28. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 52 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 52 SECTION 4/52 NOT IN DIRECTORY

RECORD NUMBER 902

29. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 4, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 4, MT= 91 SECTION 4/ 91 NOT IN DIRECTORY

RECORD NUMBER 929

30. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 5, MT = 16 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 16 SECTION 5/ 16 NOT IN DIRECTORY

RECORD NUMBER 955

31. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5849, MF = 5, MT = 17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 17 SECTION 5/ 17 NOT IN DIRECTORY

RECORD NUMBER 1033

32. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=5, MT=22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 22 SECTION 5/ 22 NOT IN DIRECTORY

RECORD NUMBER 1081

33. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=5, MT=28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 28 SECTION 5/ 28 NOT IN DIRECTORY

RECORD NUMBER 1335

34. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=5, MT=32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 32 SECTION 5/ 32 NOT IN DIRECTORY

RECORD NUMBER 1431

35. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=5, MT=33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 33 SECTION 5/ 33 NOT IN DIRECTORY

RECORD NUMBER 1469

36. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5849, MF=5, MT=91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5849, MF= 5, MT= 91 SECTION 5/ 91 NOT IN DIRECTORY

RECORD NUMBER 1518

- psyche Warnings:
 - 1. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00000E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00000E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

... [14 more lines]

2. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 6.99981E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 6.99981E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

... [1 more lines]

3. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00014E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00014E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

... [1 more lines]

4. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 6.99982E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 6.99982E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

5. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00005E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00005E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

... [1 more lines]

6. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 6.99972E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 6.99972E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

7. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 6.99995E-05 / LIES OUTSIDE LIMITS

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 6.99995E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

8. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00010E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00010E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

9. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00015E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00015E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

10. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 / STRENGTH FUNCTION 7.00032E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ENERGY = 5.00000E+01. STRENGTH FUNCTION IS 7.00000E-05 STRENGTH FUNCTION 7.00032E-05

LIES OUTSIDE LIMITS 1.00000E-04 TO 6.00000E-04

- recent Warnings:
 - 1. Fission widths given for non-fissile nucleus, but are zero 0: Fission?

Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)

Retrieval Criteria----- MAT

File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)

Reactions with No Background- Output (Resonance Contribution)

... [328 more lines]

• fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections $crossSectionSum\ label\ 0:\ total\ (Error\ \#\ 0):\ CS\ Sum.$

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 1.07%

2. Cross section does not match sum of linked reaction cross sections $crossSectionSum\ label\ 1:\ (z,n)\ (Error\ \#\ 0):\ CS\ Sum.$

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.12%

• fudge-4.0 Errors:

1. Calculated and tabulated Q values disagree. reaction label 4: n[multiplicity:'2'] + Ce143 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7234581.443878174 eV vs -6.8971e6 eV!

2. Calculated and tabulated Q values disagree.

reaction label 5: n/multiplicity:'3'] + Ce142 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12379419.36843872 eV vs -1.20482e7 eV!

3. Calculated and tabulated Q values disagree. reaction label 6: n + H1 + La143 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -9877161.432022095 eV vs -9414630. eV!

4. Calculated and tabulated Q values disagree. reaction label 7: n + H2 + La142 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -13876210.48387146 eV vs -1.34726e7 eV!

5. Calculated and tabulated Q values disagree. reaction label 8: n + H3 + La141 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12786848.52111816 eV vs -1.23736e7 eV!

6. Calculated and tabulated Q values disagree.

reaction label 9: Ce145 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 4392892.183135986 eV vs 4760390. eV!

7. Calculated and tabulated Q values disagree. reaction label 10: n + He4 + Ba140 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 71188.39482116699 eV vs 432094. eV!

8. Calculated and tabulated Q values disagree. reaction label 11: H1 + La144_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -5100470.447692871 eV vs -4718520. eV!

9. Calculated and tabulated Q values disagree. reaction label 12: $H2 + La143_{-s}$ (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7652595.331085205 eV vs -7104510. eV!

10. Calculated and tabulated Q values disagree. reaction label 13: H3 + La142-s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7618977.543258667 eV vs -7287460. eV!

11. Calculated and tabulated Q values disagree.

reaction label 14: He4 + Ba141_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 4596770.008468628 eV vs 5203190. eV!

• njoy2012 Warnings:

1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

aroupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 16 only mf4/mf5 provided

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 17 only mf4/mf5 provided

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 22 only mf4/mf5 provided

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 28 only mf4/mf5 provided

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

- ---message from conver---cannot do complete particle production for mt= 32 only mf4/mf5 provided
- 6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to good evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (5): GROUPR/conver (0)

- ---message from conver---cannot do complete particle production for mt= 33 only mf4/mf5 provided
- 7. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

 groupr...compute self-shielded group-averaged cross-sections (6): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 91

only mf4/mf5 provided